



NOTICE OF PUBLIC MEETING & AGENDA

TRAFFIC SAFETY COMMISSION

7:00 PM, Monday, October 8, 2012

Public Safety Building, 401 E Third Street, Newberg, OR

"Mission Statement: To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community."

I. CALL MEETING TO ORDER

- Pledge of Allegiance
- Roll Call
- Review and approve minutes of August 13, 2012

II. PUBLIC COMMENTS

III. NEW BUSINESS

- ODOT Region 2 Traffic Safety Coordinator Nicole Charlson will provide an update on crash data and child safety seat information

IV. OLD BUSINESS

- General discussion regarding speed humps
- General discussion regarding Complete Streets

V. STAFF REPORTS – GENERAL INFORMATION

- Police
- Engineering
- Log of Decisions

VI. ADJOURNMENT – Next meeting November 12, 2012

ACCOMMODATION OF PHYSICAL IMPAIRMENTS: In order to accommodate persons with physical impairments, please notify the City Recorder's office of any special physical or language accommodations you may need as far in advance of the meeting as possible and no later than 48 hours prior to the meeting. To request these arrangements, please contact the City Recorder at (503) 537-1283. For TTY services please dial 711.

POSTED: 9/28/2012

TRAFFIC SAFETY COMMISSION MINUTES
Monday, August 13, 2012, 7:00 PM
Public Safety Building, 401 E. Third Street, Newberg, OR

"Mission Statement: To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community."

I. CALL MEETING TO ORDER

Chair Neal Klein called the meeting to order at 7:04 PM.

II. PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was performed.

III. ROLL CALL

Members Present:	Neal Klein, Chair	Karl Birky	Doris Brandt
	Dianna Cotter	Shannon Eoff	Ron Johns
	Kari Lawson	James Oravetz	
	Lesley Woodruff, Vice-Chair	Mayor Bob Andrews, Ex-officio	

Members Absent: Hannah Kinney, Student Commissioner (excused)

Staff Present:	Brian Casey, Chief of Police	Mary Newell, Support Services Manager
	Paul Chiu, Senior Engineer	Jennifer Nelson, Deputy City Recorder
	Jessica Nunley, Assistant Planner	

Others Present: Mike Gougler, Judy Moshberger, and Timi Parker

IV. CONSENT CALENDAR

1. Review and approve meeting minutes of July 9, 2012

MOTION #1: Cotter/Woodruff to approve the Consent Calendar including the Traffic Safety Commission minutes for July 9, 2012, as amended. Motion carried (9 Yes/0 No).
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V. PUBLIC COMMENTS

None.

VI. PUBLIC HEARING

1. Reconsideration of Limited Decision TSC-12-016: Speed Hump (raised crosswalk) at Little Oak Street.

TIME – 7:06 PM

Chair Klein introduced the hearing and called for any biases or conflicts of interest. Commissioner Karl Birky excused himself from the hearing because of his professional work with the developer.

Mr. Paul Chiu, Senior Engineer, presented the staff report (see official meeting packet for full report).

Ms. Jessica Nunley, Assistant Planner, recapped the conditions from the Planning Commission (PC) and how installing a raised crosswalk would be costly and problematic. She noted the PC and the Planning division was accepting of a speed hump on Little Oak Street by the Fred Meyer parking lot entrance but the second speed hump recommended by the Traffic Safety Commission (TSC) was not a condition of development so installing that one would need to be worked out with the residents and the developer through the TSC.

Chair Klein opened the public testimony.

Ms. Judy Moshberger said she lives on the corner off Hayes Street just past the driveway to the proposed apartments. She commented speed is not the primary issue, volume is. When she moved here police came to a meeting of the Homeowners' Association (HOA) and defined local traffic only as the residents living in the townhomes. Her impression was people should not be using this road and the humps should only be inconveniencing the townhomes residents and their guests. She spoke of recently witnessing a freight truck driving through from Fred Meyer and noted raised crosswalks or humps like the ones on 2nd Street may slow traffic down, but will not discourage vehicles from coming through the neighborhood. She felt in order to get people to use Hayes Street and Brutscher Street, like they are supposed to, they must put a speed bump there and make it painful to come through and prevent the shortcut. The speed humps or raised crosswalks do not keep her from driving on 2nd Street.

Commissioner Ron Johns asked how it would affect her and other residents living there if a speed bump is installed. Ms. Moshberger replied it would affect them positively, which is what she wants, and the other neighbors they have spoken to about it also agree a speed hump will not do any good.

Commissioner James Oravetz said he has been trying to figure out why the exit from Fred Meyer was put there from the beginning. Ms. Moshberger replied closing this exit was originally discussed when the signs were put in for "Local Traffic Only" because there are other entrances for sufficient access, but they were never told anything other than no.

Mayor Andrews clarified her residence location on Hayes Street and her opinion of volume being the issue, not speed. Ms. Moshberger replied both are a problem, but volume is the primary concern. Mayor Andrews asked if she had any objection or resistance to closing the driveway to reduce the volume. Ms. Moshberger replied there would be a lot of support for closing the exit.

Commissioner Dianna Cotter mentioned they were to give a decision of the PC's decision to place either a speed bump or hump near the Fred Meyer exit. The driveway is Fred Meyer's property and would be their decision. She clarified Ms. Moshberger seemed to be asking for something more aggressive to be installed and asked if she would prefer that device to be permanent or temporary to see if it effects the traffic volume. Commissioner Cotter noted they wish to discourage traffic on a City public street, but they should consider if this is realistic for emergency services. Ms. Moshberger replied she would like emergency vehicles, garbage services, and local residents to have access only, but not the other continuous traffic making it dangerous to back out of her driveway and if a temporary solution was recommended she would be accepting of this.

Chair Klein asked if large service trucks commonly use this area. Ms. Moshberger replied they do rarely, but it is becoming more common.

Ms. Timi Parker, President of Oaks at Springbrook HOA Board, spoke of being the one who fields most of the neighborhood complaints and asked if it was truly the case that Fred Meyer owned the property at that exit. Commissioner Cotter replied the developer mentioned this was the case at a previous meeting. Ms. Parker continued that she lived there for eight years and is home a lot and observed it is largely an issue of volume,

although speed is also a concern. She has observed cars going through the neighborhood coming out on Hayes Street, which takes the same amount of time; but drivers do this to avoid the Springbrook Road intersection. She said the neighborhood is congested and has several cars parked on both sides of the street so traffic is a problem. The HOA Board is interested in making sure residents are safe and happy with the quality of life. She would support a temporary solution but wondered how it would be monitored and impacts determined and suggested a time frame for review.

Mr. Gougler appreciated the reconsideration of the previous decisions and spoke of the PC requiring a speed bump at the north entrance of the townhomes as the condition of development. He offered observations of different experiences driving through the area today at different speeds and different routes and noted the driveway was indeed Fred Meyer property as inquired about earlier. He said speed bumps are traffic calming devices for speed control, and with the narrow streets, curves and parked cars, it is already difficult to gain speed in the neighborhood, so this is not an issue. He proposed a temporary rubberized speed bump device at the north location that can easily be removed if needed. While reviewing the previous meeting's minutes he noted Commissioner Shannon Eoff preferred to have either two bumps or humps installed or none at all and that Chief of Police Brian Casey had specific concerns because speed bumps are used to deter speeding, which cars are not doing here. He added the Mayor also spoke of a temporary speed bump as a solution. Mr. Gougler did not feel it made sense to put pedestrian crossing in there with a raised crosswalk because it is not intended to discourage traffic. The temporary speed bumps he is suggesting for both locations are bright yellow/orange in color and irritating to drive over. They can be damaging to public safety vehicles, but they are discouraging and can be removed. The cost for the raised crosswalk with curb cuts and street grinding is a minimum of \$10,000.00 to install and twice that amount to remove because repaving would be required. He also proposed making the driveway to be installed at the new apartments a "No Left Turn". He spoke of the speed bumps giving the impression of a private community and said he was willing to whatever structured is conditioned at the north, but is only willing to install this temporary one at the southern location; either way he would like the solution to be affordable and efficacious.

Chair Klein spoke of discussing the responsibility of removal costs with the city attorney and mayor and his desire to discuss this with the city manager and PC chair as well. It is his understanding removal costs would be transferred over to the City and neighborhood. Chair Klein noted he suggested the raised crosswalk to bring the City up to speed on the Complete Streets concept. Mr. Gougler agreed this was admirable, but he felt they already addressed the pedestrian access with the stairs intended from the apartments to Fred Meyer.

Commissioner Johns said he felt like one speed bump might just do it and asked if the garbage trucks would have enough clearance to get over the temporary solution. Mr. Gougler replied they are 3 inches high and can be cleared by the garbage trucks.

Commissioner Shannon Eoff felt traffic will only get heavier once the apartments are completed and felt more permanent structures would be preferred. Mr. Gougler noted his suggested speed bumps do not appear to be removable, but they are able to be removed without resurfacing the road.

Commissioner Cotter spoke of unintended affects, accomplishing goals and making the neighborhood happy. She is willing to accept a temporary speed bump as a solution in both locations with the option to remove them. Ms. Moshberger also agreed the proposed bumps by Mr. Gougler at both ends were the best chance to accomplish what they want. Commissioner Cotter said they need to look at the broader perspective because everyone has a right to the road. Ms. Moshberger wondered about the definition of local traffic and the previous impression from police that even though it is a public road it is to be used by local residents. Chief Casey interjected he does not believe this is an enforceable statement and he apologized if that was the impression she was given before, but the infraction of driving on the public street when not actually living in that neighborhood is not one they can enforce.

Mr. Chiu spoke about the traffic study and discussion of the TSC on this matter four years ago. The installed signs were an attempt to educate the public, but were not enforceable or effective. He said they can perform a new traffic study prior to the installation of any speed bumps and another after to determine effectiveness. He said temporary devices are more often geared toward private consumption or crowded parking lots because they are easy to install and remove; he has concerns for their durability compared to asphalt and maintenance in this situation. From the point of view of a public entity, it would be best for the structures to be permanent.

Commissioner Eoff asked if the HOA could get a more official consensus from the neighborhood so they can make an informed decision. Ms. Parker replied they have the ability to survey the residents and although she cannot speak officially for the HOA and residents, her overall impression is for the overwhelming desire to have the traffic problems dealt with an efficacious solution.

Chair Klein asked Ms. Nunley if there was a timeframe for the condition given by the PC. Ms. Nunley replied it must be completed prior to occupancy, but the developer would like to get going on construction as soon as possible. Mr. Gougler pointed out he proposed testing the temporary device on one end for six months and it will be 12 months before occupancy; he can survey people regularly during that time.

Mayor Andrews discussed conflicting information received from the Planning division regarding the status of the ownership of the street at the exit of Fred Meyer. The Planning Director Barton Brierley informed him this area was owned by the City, and although they have been told this area has been dedicated, they can not find a record of this. Ms. Nunley stated they do not own the Fred Meyer driveway, and were told a portion of the street was dedicated by the Worth family; further research would be required as it does show as a private drive. Ms. Nunley also pointed out the Fred Meyer development came first and likely the driveway was a condition of their development; they have also been required to have the gas trucks drive through the area behind Fred Meyer and use this exit.

Commissioner Eoff wondered if they should just install bollards preventing traffic from Fred Meyer to the neighborhood so there will still be access from Brutscher to Little Oak Street.

Commissioner Karl Birky spoke on his professional work completing the traffic study in this area indicating this is why he declared a conflict of interest and did not participate as a member of the TSC for these hearings. He spoke of the awareness of residents that a vacant lot next to their property could one day be developed and any development will likely generate more traffic. As a society, we make decisions about how we want our communities to develop and what reasonable traffic volume per day is the standard. It can become inconvenient and mitigation is more of a political issue. Looking at the whole project and studying impacts to streets and intersections, it has been determined that clearly the area will handle what it has been designed for. More traffic can be considered more dangerous, but it can also be considered reasonable. He argued fire officials generally dislike speed bumps and humps because they get to the fire later and police often feel the same response time, but sometimes they are prudent to install.

Mayor Andrews wondered if the suggestion for installing breakdown bollards would be better. Mr. Chiu spoke of a study from the City of Portland and the delays of speed bumps and other similar devices delaying emergency access.

Chair Klein closed the public testimony and recessed at 8:43 PM. He reconvened the meeting at 8:54 PM.

Mr. Chiu summarized the suggestions and stated staff could live with either of the suggestions made.

Ms. Nunley's final comments reminded the TSC they are just deciding on installing a speed bump or hump at the entrance to Fred Meyer as part of the PC condition of development. Altering the driveway could require a land use approval and the second bump was not a requirement on the developer from the PC. Mr. Chiu added a

hump is preferred over a bump since it is a public right of way and what allowed by City Code. He also mentioned concerns for setting a precedent.

Commissioner Lesley Woodruff said this situation reminded her of a previous issue at Creekside where people were emotional and tried to change people's behavior; not everyone will be happy. The reality is streets are for cars and traffic, this is not a sidewalk. It seems this neighborhood was already designed to deter traffic, but people choose to take this route anyway and it is hard to change that behavior since it has been engineered correctly. This is a volume not a speed issue and many say this will not solve the problem of volume. She did not think there should be any bumps or humps at either location.

Commissioner Johns said speed bumps offer more of a closed-community feel for people coming out of Fred Meyer and he is fine with a temporary bump rather than a permanent hump to deter drivers. It is not excessively expensive and can be taken out if it does not work.

Commissioner Cotter said she leaned toward Mr. Gougler's suggestion and the residents also seem to be in favor of a temporary speed bump to solve the issue. If the developer is willing to put one in at both ends and pay for it, she would like to know if he would be willing to make it more permanent over time.

Commissioner Oravetz was concerned about the controversy over ownership of the property approach out of Fred Meyer and on Little Oak Street. He felt it was unfortunate to have to pay for Fred Meyer's poor design and not allowing a better route for their trucks. He would love to see this exit closed, but if that cannot happen, he would be in favor of a speed bump to see if that works. The truckers driving the wrong way are another issue with weight restrictions and something needs to be done about that.

Commissioner Klein said he was afraid of plastic speed bumps and setting a precedent with other developers; he would rather see them paved.

Commissioner Johns liked the temporary suggestion because it is bright and abrupt and can be reassessed. Chair Klein was concerned about running into the issue of who foots the bill when and if it does become permanent; he added the concrete bumps can be painted a bright color. Discussions followed regarding the feasibility of the plastic bumps vs. concrete and the legality of the financial burden.

Commissioner Cotter did not believe they had the option to choose a temporary bump based on the PC motion for the condition. Ms. Nunley replied the planning division defers to engineering and the term speed bump was a generic term for the solution that she assumes they meant to be a permanent structure.

Chief Casey pointed out once again this is not a volume or a speed problem on this street other than what people perceive. All people think there are too many cars in their neighborhoods and would like to have speed bumps so we will have these all over if we start this, especially when there is not a documented issue. He also did not like making something a requirement on a developer with no knowledge as to whether it will be effective or not; they are dealing with a street without any statistical data to support this. He understands people do not want cars on their street, but it is a public street.

Commissioner Lawson said she has been hesitant from the beginning with this being a public street and taxpayers paying to drive here. The desire to deter traffic is understandable, but drivers have the right to drive here.

Commissioner Johns asked what traffic volumes are for this area. Mr. Chiu replied the data was collected a few years ago but he does not have it with him; he can say there was not a super high volume for a small neighborhood street to his recollection. Chair Klein asked if anything has changed to significantly impact the area since the traffic survey was last performed. Mr. Chiu replied Portland Community College (PCC) built

their campus but there has been little development east of Brutscher Street and the drivers going through were mostly from the other community across Hayes Street driving to Fred Meyer.

Commissioner Doris Brandt said in all the years she has served on the TSC there have been many requests for speed bumps and they have always said no because there will be others to follow. She felt if they are to do anything, they should block that street, but forget installing any speed bumps or humps.

Commissioner Lawson asked if the TSC has the authority to override the PC decision and suggest nothing be done. Ms. Nunley replied they do because the PC said it would be at the discretion of TSC, since they are not traffic engineers. If the TSC said no, that would be fine and would fulfill the condition.

Commissioner Woodruff asked if the volume problem was something the TSC could pursue in redirecting driveway or narrowing the road separately or as a recommendation to the neighbors to turn into a Local Improvement District (LID). Commissioner Klein said it would be a good idea if the studies supported the issue. He suggested not doing anything until after the apartments are built and another traffic study can be conducted.

Commissioner Lawson suggested the HOA address the problem of people from the southern community causing the problem by educating them about this not being an acceptable route and to use main thoroughfares.

Mayor Andrews reminded the TSC there have been two motions made and neither one of them have been moved for reconsideration.

Commissioner Eoff said she sees this as a bigger problem and preferred looking at this proactively before the large apartment complex is present, but she felt she was slowly getting to be in the minority in her thinking.

MOTION #2: Woodruff/Brandt to reconsider Motion #3 from the July 9, 2012, Traffic Safety Commission meeting to have an official recommendation made to the developer for a speed hump on Oak Grove Street running north to south just northwest of the proposed entrance to the new apartment complex. Motion carried (8 Yes/0 No/1 Abstain [Birky]).

MOTION #3: Woodruff/Brandt to rescind the decision of Motion #3 from the July 9, 2012, Traffic Safety Commission meeting to have an official recommendation made to the developer for a speed hump on Oak Grove Street running north to south just northwest of the proposed entrance to the new apartment complex. Motion carried (7 Yes/1 No [Cotter]/1 Abstain [Birky]).

Chair Klein discussed required noticing with staff.

MOTION #4: Woodruff/Lawson to reconsider Motion #2 from the July 9, 2012, Traffic Safety Commission meeting to approve TSC-12-016 installing a speed hump on Little Oak Street running east to west just south of the entrance to the Fred Meyer parking lot. Motion carried (8 Yes/0 No/1 Abstain [Birky]).

MOTION #5: Woodruff/Brandt to rescind Motion #2 from the July 9, 2012, Traffic Safety Commission meeting to approve TSC-12-016 installing a speed hump on Little Oak Street running east to west just south of the entrance to the Fred Meyer parking lot. Motion carried (7 Yes/1 No [Cotter]/1 Abstain [Birky]).

MOTION #6: Lawson/Woodruff to notify the Planning Commission the Traffic Safety Commission does not recommend installing a speed bump or hump at the Little Oak Street location as a condition of approval for the Oak Grove Apartment project development at this time. Motion carried (8 Yes/0 No/1 Abstain [Birky]).

VII. NEW BUSINESS

Chair Klein discussed a request for a block party that was not placed on the agenda because it would not have been addressed in time by this meeting and he did not want to hold an emergency meeting. Rather than give an official decision from the TSC, he offered his opinion as a private citizen who is also the chair of the TSC to agree with Police Captain Chris Bolek's opinion the street closure was not a good idea and the Code gave them the authorization to approve or deny it.

VIII. OLD BUSINESS

None.

IX. STAFF REPORTS - GENERAL INFORMATION

1. Police Update

Chief Casey spoke of busy summer with Old Fashioned Festival and Special Olympics being completed.

2. Engineering Update

None.

3. Items from Commissioners

None.

IX. ADJOURN TO NEXT MEETING

The meeting adjourned at 9:52 PM until September 10, 2012.

Approved by the Newberg Traffic Safety Commission this 10th day of September, 2012.

Nicole Tannler
Minutes Recorder

Neal S. Klein
Traffic Safety Commission Chair

Safety Handbook for Oregon's Local Roads and Streets

Prepared for:
Oregon Department of Transportation

Prepared by:
Mojie Takallou, Ph.D., P.E.
University of Portland

<p>Notice: The most up-to-date version of this Handbook is available in electronic form online and can be downloaded at: http://www.up.edu/highwaysafety</p>

June 2010

Chapter 19: Traffic Calming

Local streets are designed to serve local residential traffic and provide access to adjacent land uses. Generally, traffic volumes and speeds along local streets are low and the users are those from nearby residences or buildings. However, in some neighborhoods, especially those with grid street patterns, traffic using the streets is not local traffic, but is instead using the neighborhood streets as a short cut between larger arterials. When nearby arterial streets experience congestion, drivers may use local residential streets to cut through the area, often at high speeds. The cut through traffic changes the intent of the local street by adding traffic volume and increasing the speeds, as well as adding noise and pollution. Traffic calming can be used to mitigate the problem described above.

***What Is Traffic Calming?*¹**

Definitions of traffic calming vary, but they all share the goal of reducing vehicle speeds, improving safety, and enhancing quality of life. Some traffic calming measures focus on what are known as the three Es: Education, Enforcement, and Engineering. Other forms of traffic calming include all kinds of engineering measures, while others focus only on engineering measures that compel drivers to slow down, excluding those that use barriers to divert traffic.

Based on the Institute of Transportation Engineers (ITE), "Traffic Calming: State of Practice" report, "Traffic calming involves changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes, in the interest of street safety, livability, and other public purposes."²

Traffic calming measures are distinctly different from other traffic measures such as road modification, traffic control devices, and streetscaping. Rather than being a regulatory measure that is enforced, such as a STOP sign or a speed limit, traffic calming measures are "self-enforcing," meaning that the driver makes a conscious decision to change his or her behavior.

***What Are Traffic Calming Goals?*³**

While the need for traffic calming along a roadway may be apparent, many factors should be considered before implementing a particular calming measure. Along with vehicular traffic, bicycles, pedestrians, and transit are other modes of transportation that can be greatly impacted by traffic calming. The type of calming measure should be chosen not only based on the intended purpose of the measure, but also the type of environment and roadway location. In order to implement an appropriate and effective device, which contributes to the users and aesthetics of the area, public input and concerns should be considered and addressed. If all necessary factors have been considered, and an appropriate traffic calming measure has been

¹ Source: <http://www.trafficcalming.org>

² Source: Traffic Calming: State of the Practice, ITE/FHWA, August 1999

³ Source: <http://www.trafficcalming.org>

selected, then the overall goals of traffic calming can be achieved. Traffic calming goals, as described by the Institute of Transportation Engineers (ITE), are to:

- Increase the quality of life;
- Incorporate the preferences and requirements of the people using the along streets or at intersections;
- Create safe and attractive streets;
- Help to reduce the negative effects of motor vehicles on the environment; and
- Promote pedestrian, cycle and transit use.

What Are The Objectives Of Traffic Calming? ⁴

The most apparent purpose of traffic calming is to reduce speed and volume to an acceptable level appropriate for the type of facility and environment. The desired outcome of the traffic calming device can be used to determine the type of measure implemented in a particular area. While some devices are intended to slow traffic, others may be intended to reduce traffic volumes along a specific roadway. Although each calming measure may serve particular tasks, the overall objectives traffic calming are to:

- Encourage citizen involvement in the traffic calming process by incorporating the preferences and requirements of the citizens;
- Reduce vehicular speeds;
- Promote safe and pleasant conditions for motorists, bicyclists, pedestrians, and residents;
- Improve the environment and livability of neighborhood streets;
- Improve real and perceived safety for nonmotorized users of the streets;
- Discourage use of residential streets by non-resident cut through vehicular traffic; and
- Reduce the need for police enforcement.

Traffic calming is a process that involves implementing or changing the physical features of the roadway in order to reduce the negative effects that motor vehicles can have in a neighborhood or any urban environment. When the original intent of the roadway is being altered by cut-through traffic or high speeds, traffic calming may be a necessary option for improving the overall quality of life throughout that area.

Traffic Calming Measures

Due to the wide range of issues that arise when mitigating a traffic problem, there have been a variety of traffic calming treatments developed, each with advantages and disadvantages, and each with a primary objective. The following section describes traffic calming measures that are available and outlines the purposes, advantages, and disadvantages of each.

Speed Control Measures

Speed control measures are of three types:

- Vertical measures - use forces of vertical acceleration to discourage speeding. Examples include speed humps and speed tables.
- Horizontal measures—use forces of lateral acceleration to discourage speeding. Examples include traffic circles, roundabouts, chicanes, and lateral shifts.

⁴ Source: <http://www.trafficcalming.org>

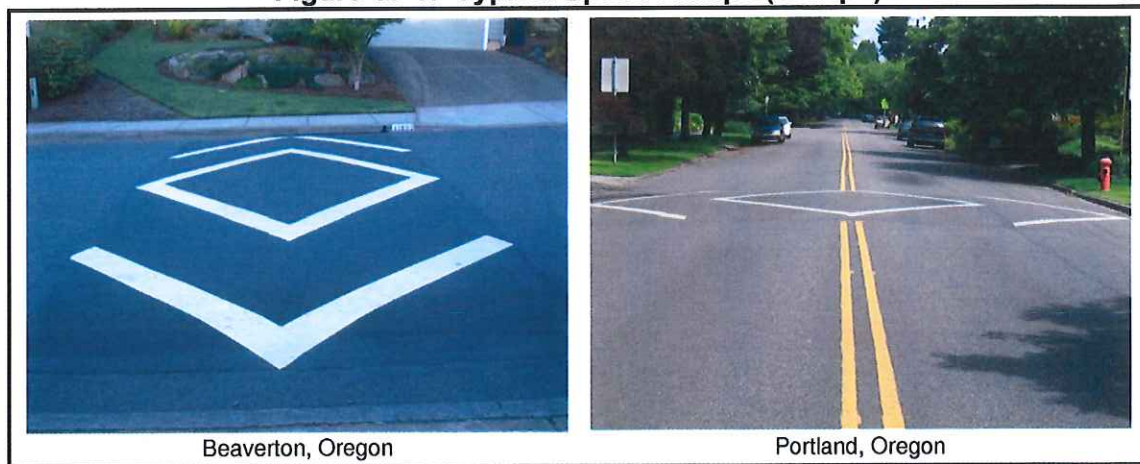
- Narrowings - use a psycho-perceptive sense of enclosure to discourage speeding. Examples include curb extensions, center island narrowings, and chokers.

Because physical forces are more compelling, vertical and horizontal devices tend to be more effective in reducing speeds.

Speed Humps (Bumps)

Speed humps are rounded raised areas of pavement placed across the roadway. They are typically 14 feet (4.2 m) in length and 3 inches (75 mm) high and are often placed in a series spaced 300 to 600 feet (90 to 180 m) apart. The profile of a speed hump is generally circular, parabolic, or sinusoidal and tapered on each end towards the curb to allow unimpeded drainage. Speed humps are usually placed mid-block and are not appropriate near intersections or on roadways with a grade greater than 8 percent. This type of calming measure is designed for areas where slow speeds are desired, such as a residential neighborhood street, and is not appropriate for major roadways or primary emergency response routes. Figure 19-1, Figure 19-2, and Figure 19-3 show typical speed humps.

Figure 19-1: Typical Speed Humps (Bumps)



Beaverton, Oregon

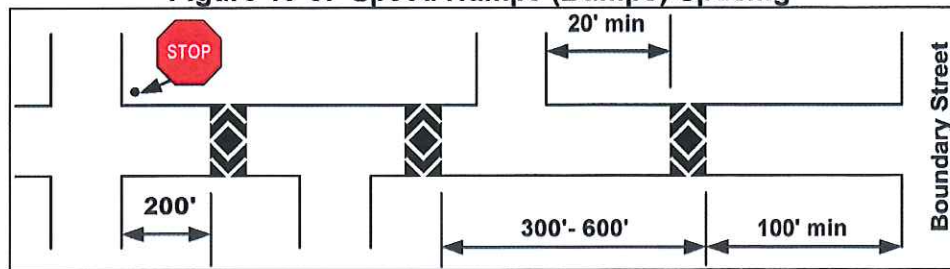
Portland, Oregon

Figure 19-2: Typical Rubber Speed Humps (Bumps)



Kaiser Medical Center, Clackamas, Oregon

Figure 19-3: Speed Humps (Bumps) Spacing⁵



Advantages

Speed humps have proven to reduce the average travel speed of vehicles by 20 to 25 percent and are relatively inexpensive to install. Although bicyclists often prefer that the speed humps do not extend into the bike lane, this traffic calming measure has shown to be easily traversed by all modes of transportation. Traffic volumes are often reduced depending on alternative nearby routes and the number of collisions has also been shown to decrease.

Disadvantages

Although speed humps are inexpensive, due to their complex shape these traffic calming devices can be difficult to construct. The shape and placement of speed humps can create an uncomfortable ride for drivers and passengers, and usually require additional pavement marking or signage to warn drivers of the obstacle. The braking and acceleration necessary to traverse the speed humps can increase noise and air pollution. These devices cause delays in emergency vehicle response and travel time.

Design Guidelines For Speed Humps (Bumps)⁶

The following are selected general standards and guidelines developed by the City of Portland Bureau of Traffic Management that apply to speed hump applications.

A. Prevailing Speed – 14-foot (4.2 m) speed humps should not be placed on streets with 85th percentile speeds exceeding 40 mph (65 k/ph).

B. Street Classification – 14-foot (4.2 m) speed humps shall only be placed on local service streets.

C. Street Grade – All speed humps may be installed on street sections with a longitudinal grade of up to 8 percent.

D. Proximity To Curve – Before placing speed humps on a curved roadway, an engineering evaluation should be conducted to determine that the speed hump installation, in conjunction with the posted speed of the curve, will accommodate safe vehicle passage. Speed humps shall not be placed on horizontal curves with radii of less than 100 feet (30 m). Special attention shall be paid to the placement of speed humps on crest vertical curves.

E. Street Condition – The Maintenance Department should inspect all streets prior to any proposed speed hump construction. The Maintenance Bureau will determine if the existing street

⁵ Source: Traffic Manual, City of Portland

⁶ Source: Traffic Manual, City of Portland

pavement material is adequate to support speed humps or if any pavement maintenance is required.

F. Unimproved Streets – Speed humps may be installed on paved streets without curbs that are maintained by the city unless otherwise prohibited by these guidelines. After construction on streets without curbs, the engineer may consider the installation of roadside delineators to deter a confirmed problem with driver circumnavigation of a speed hump.

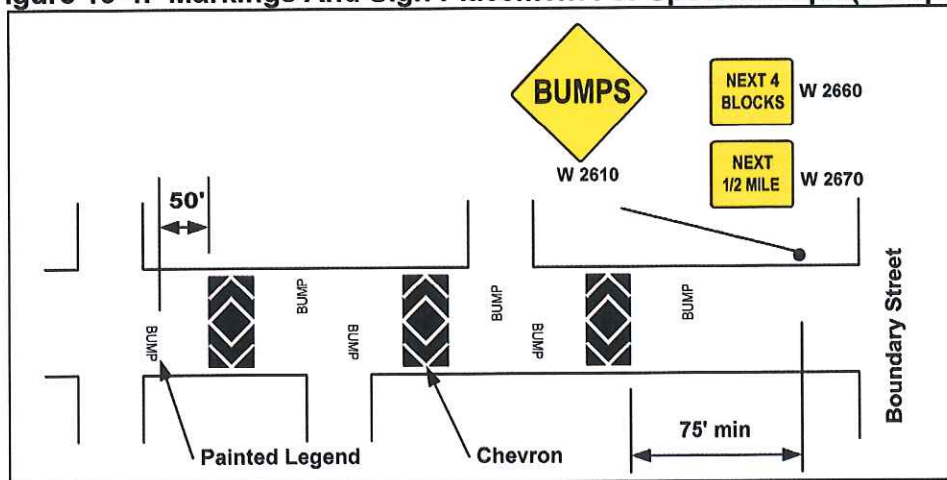
G. Travel Lanes – Speed humps should not be placed on streets with more than two automobile through travel lanes.

H. Spacing – Speed humps are typically spaced at least 300 feet (90 m) apart. Speed humps spaced more than 600 feet (180 m) apart have significant less affect on driver speeds. The standard spacing for speed humps is 400 to 500 feet (120 m to 150 m) apart (see Figure 19-3) with closer spacing chosen for more severe speeding problems. 14-foot (4.2 m) speed humps at standard spacing will typically reduce the average 85th percentile vehicle speed along the length of the project street to 25 mph (40 km/h).

I. Shape – The size or length of a speed hump is measured along the centerline of the street. Both 14-foot (4.2 m) speed humps and 22-foot (6.6 m) speed tables are constructed to a maximum height of 3 inches (75 mm) above the existing street surface.

J. Pavement Markings – Each speed hump shall be marked with white chevron markings (See Figure 19-4). Chevron markings shall be centered on the painted street centerline when such a centerline exists and shall not be placed where a marked bike lane exists. For each speed hump installed, a BUMP legend shall be painted in each approaching travel lane 50 feet (15 m) upstream of the speed hump. Existing double yellow centerlines and bike lanes shall be installed on top of any speed hump that covers those markings.

Figure 19-4: Markings And Sign Placement For Speed Humps (Bumps)⁷



K. Driveways - Speed humps shall not be constructed so as to block driveways. Speed hump locations shall be chosen to maintain driveway access, with the minimum clearance from a driveway throat being 5 feet (1.5 m).

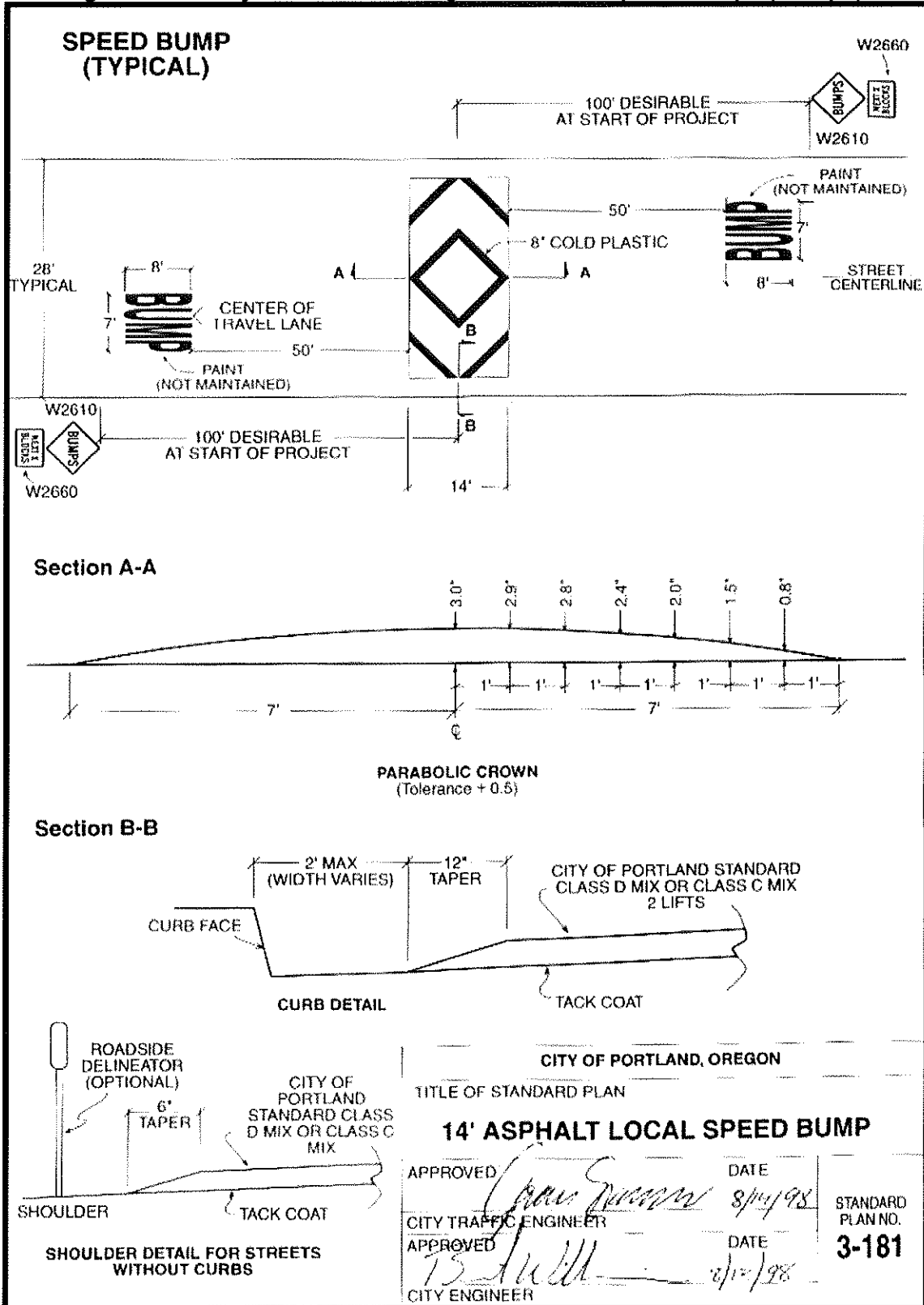
L. Parking Removal – Parking removal is not required at standard 14-foot (4.2 m) speed humps.

⁷ Source: Traffic Manual, City of Portland

M. Utilities – Speed humps shall not be placed closer than 20 feet (6 m) adjacent to underground utility access points. Speed humps should be located to avoid placement over water, sewer and natural gas service connections.

Figure 19-5 shows the City of Portland design of 14-foot (4.2 m) speed humps.

Figure 19-5: City Of Portland Design Of 14-Foot Speed Humps (Bumps)⁸



⁸ Source: City of Portland, Bureau of Traffic Management, TRAFFIC MANUAL, 1994

Speed Tables (Trapezoidal Humps (Bumps), Speed Platforms)

Speed tables are long raised speed humps with a flat top and ramps on the ends (see Figure 19-6). The flat section of the speed table is more gently sloped than a speed hump and is sometimes long enough for the entire wheel base of a vehicle. Often these calming measures are constructed with brick or textured material on the flat section. The textured material not only adds to the aesthetics of the calming measure, but also draws the attention of the driver, thus enhancing safety and speed reduction. Typically, speed tables are installed along local and collector streets or main roads through small communities. The purpose of the speed table is to slow vehicle speeds and allow a smoother ride for larger vehicles, while reducing the likelihood of diversion on higher volume street projects. Speed tables often work well with textured crosswalks and curb extensions and can include a cross walk. The most common type of speed table is 3 to 4 inches (75 to 100 mm) high and 22 feet (6.6 m) long in the direction of travel, with 6-foot (1.8 m) ramps at the ends and a 10-foot (3 m) field on top.

Figure 19-6: Speed Table Examples



Speed Table With Center Island, Beaverton, Oregon

Speed Table With Curb Extension, Beaverton, Oregon

Speed Table With Crosswalk, Beaverton, Oregon

Speed Cushion, Beaverton, Oregon

Advantages

Speed tables are effective in reducing the vehicle speeds and are smoother on large vehicles such as buses or fire trucks. Depending on alternative nearby routes, traffic volumes are often reduced and the number of collisions has also been shown to decrease. The design of the raised crosswalk allows for more pedestrian visibility and there is a better chance that a driver may yield to a pedestrian in a raised crosswalk. Speed tables are usually preferred by emergency vehicles due to less of a delay during emergency response.

Disadvantages

Due to the gentler slope of the design, speed tables are not as effective in speed reduction as speed humps. The textured material that is typically used can add to the aesthetics, but can also add to the expense of the calming device. The braking and acceleration necessary to traverse the speed humps can increase noise and air pollution.

How To Design 22-Foot (6.6 M) Speed Hump (Bump)

Shape

The 22-foot (6.6 m) long vertical cross-section of the 22-foot (6.6 m) speed hump, measured in the direction of traffic flow, shall consist of a 10-foot (3 m) horizontal platform, 3 inches (75 mm) in height which transitions at both ends to existing pavement level by way of 6-foot (1.8 m) parabolic curves, as detailed in Figure 19-7.

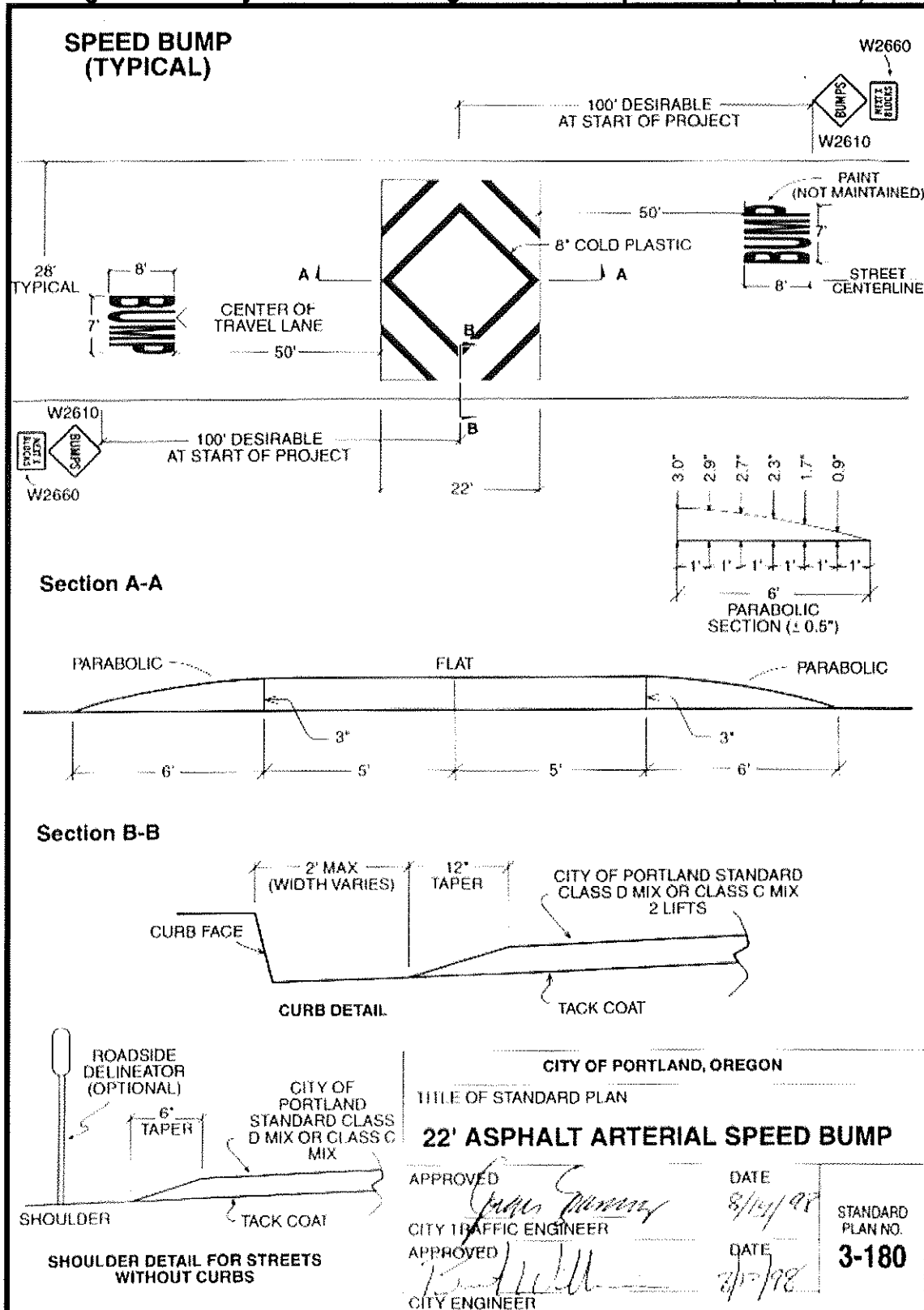
Signing and Pavement Markings

22-foot (6.6 m) speed humps shall be accompanied by appropriate signing and pavement markings as detailed in Figure 19-7.

Placement of 22-Foot (6.6 m) Speed Hump

Where possible, 22-foot (6.6 m) speed humps should be located at least 100 feet (30 m) from the closest intersection curb or pavement edge line.

Figure 19-7: City Of Portland Design Of 22-Foot Speed Humps (Bumps)⁹



⁹ Source: City of Portland, Bureau of Traffic Management, TRAFFIC MANUAL, 1994

City Of Portland Speed Hump (Bump) Purchase Projects

The following summary describes the City of Portland approval process for speed hump (bump) purchase projects.

1. Neighborhood Request – City receives written request from neighborhood resident(s) and determines eligibility for a proposed project.
2. Eligibility Verification – City determines eligibility for proposed project based on the following criteria:
 - a. Emergency Response Route Designation – street will not be considered for speed reduction measures (speed humps or traffic circles) if it is designated a Major Emergency Response Route.
 - b. Street Classification – speed humps are allowed on two street types, Local Service and Neighborhood Collector, with at least 75 percent residential land use.
 - c. Traffic Speeds and Volumes – this criteria is based on street classification: Speed: 85th percentile speed is at least 5 mph above posted limit (85th percentile speed of 30 mph based on 25 mph limit (40 km/h)).
3. Preliminary Project Area – city defines preliminary Project Area for proposed project street, and informs neighborhood resident(s) of eligibility status. City commits to best effort to complete this task within 30 days of receipt of initial neighborhood request.
4. Neighborhood Interest Petition – city receives neighborhood interest petition from residents within Project Area demonstrating reasonable support to evaluate their street for a Speed Hump Project. This petition must be signed by at least 33 percent of the Project Area properties. City ends project if the neighborhood interest petition does not meet the minimum 33 percent support requirement.
5. Draft Project Summary – city works with residents in Project Area neighborhood to develop a Draft Project Summary that defines:
 - a. Project Area,
 - b. Potentially Impacted Area,
 - c. Project Cost, and
 - d. Project Design.
6. Public Meeting Announcement – city announces public meeting for review of Draft Project Summary.
7. Public Meeting – city facilitates public meeting to discuss proposed project where residents from the Project Area and the Potentially Impacted Area can provide feedback/input.
8. Project Support Petition – city provides a project support petition at the public meeting to be circulated by neighborhood residents that must be signed by at least 67 percent of the Project Area properties.
9. Support Petition Deadline – project support petition must be completed and returned to city no more than 60 days from date of public meeting. City verifies petition completeness and accuracy.
10. Neighborhood Association Presentation – following successful completion of the Project Support Petition step, city staff and area project sponsor(s) present project summary and

petition results at the next meeting(s) of all Neighborhood Associations covering Potentially Impacted Area.

11. Neighborhood Association Endorsement Letter – all Neighborhood Associations covering Potentially Impacted Area have up to 60 days to consider project and vote on endorsement.
12. Administrative Approval – city administratively approves proposed project based on completion of Steps 1-11.
13. City Council – proposed project proceeds to City Council as a Resolution for consideration and final approval.
14. Project Funding – city received/collects funding for approved project through:
 - a. Residential Purchase Program (via voluntary financial contributions),
 - b. Urban Renewal Areas, and
 - c. Grants.
15. Project Construction – city constructs approved speed bump project after full funding has been received.

Table 19-1: Speed Bump Purchase Program Scoring Criteria Review¹⁰

Scoring Criteria Review			
Criteria	Point Range	Basis for Points	Discussion
Traffic Speed	0-50 points	5 points for each mile per hour that the highest 85 th percentile speed exceeds the lowest posted speed limit by 5 mph.	Uses posted speed as gauge of violation. Accounts for newly created permanent 20-mph school zones
High Speeders	0-15 points	50-99 speeders: 5 points 100-199 speeders: 10 points 200 or more: 15 points	Speed bumps have greatest effect on most egregious speeders.
Traffic Volume	0-30 points	500 or less vpd: 0 points 500-1500 vpd: (Volume-500)/50 1500-2500 vpd: 30 points	A large number of lower speed speeders is commensurate with a few egregious speeders
City Walkway or Pedestrian District	5 points	If designated in the Transportation System Plan 5 points are given.	Adds value based on multi-modal designation of street, acknowledging more vulnerable users. Supports City transportation goals related to concentrating pedestrian activity.
City Bikeway	5 points	If designated in the Transportation System Plan 5 points are given.	Adds value based on multi-modal designation of street, acknowledging more vulnerable users. Supports City transportation goals related to concentrating bicycle activity.
Sidewalks	0, 10 or 20 points	100% sidewalks on both sides = 0 points 100% sidewalks on one side = 10 points Lack of 100% one side = 20 points	Considers the importance a lack of sidewalks plays in street safety for pedestrians.
Maximum	125 points		

➤ For Local Service Streets only that are not designated as Major Emergency Response Routes and serve 2500 or fewer vehicles per day.

➤ It is proposed that the City's 60% subsidy initially be offered to project segments that achieve 30 total points. This would place approximately 150 projects on the subsidy list.

¹⁰ Source: City of Portland, Bureau of Traffic Management

TRAFFIC SAFETY COMMISSION – 2012 LOG OF DECISIONS

DATE	MOTION/ACTION
1/9/2012	<p>MOTION #1: Brandt/Oravetz to reelect both the current Chair Neal Klein and Vice-Chair Lesley Woodruff for another year in their respective offices. Motion carried (9 Yes/0 No).</p> <p>MOTION #2: Oravetz/Eoff to approve the Traffic Safety Commission work session minutes for November 14, 2011, as written. Motion carried (9 Yes/0 No).</p> <p>MOTION #3: Brandt/Cotter to approve the Traffic Safety Commission minutes for November 14, 2011, as amended. Motion carried (7 Yes/0 No).</p> <p>TSC-12-001: Neighborhood Traffic Flow Study for the Sheridan St/N College area MOTION #4: Brandt/Cotter to hire a consultant for TSC-12-001 to look at the neighborhood traffic flow study for the Sheridan Street and N. College Street area and make recommendations to the Traffic Safety Commission; and to elect a volunteer to represent the TSC during the consultant selection process. Motion carried (9 Yes/0 No).</p> <p>TSC-11-018: Highway 99W Speed Zone Investigation Report MOTION #5: Oravetz/Cotter to approve the ODOT recommendation to increase the speed limit from 40 mph to 45 mph on part of 99W two-hundred (200) feet southwest of Vittoria Way to two-hundred fifty (250) feet northeast of Brutscher Street and to approve the recommendation to reduce the speed limit from 40 mph to 35 mph 250 ft. northeast of Brutscher Street to 0.10 mile northeast of Elliot Street. Motion carried (9 Yes/0 No).</p> <p>MOTION #6: Brandt/Oravetz to appoint Karl Birky as the Traffic Safety Commission representative for the selection of a consultant for TSC-12-001. Motion carried (7 Yes/0 No).</p> <p>TSC-11-030: Pinehurst from Main to College – Speed issue MOTION #7: Brandt/Cotter to accept the staff recommendation for TSC-11-030 to accept the traffic study with no further action by the Traffic Safety Commission at this time. Motion carried (9 Yes/0 No).</p>
2/13/2012	<p>MOTION #1: Brandt/Oravetz to approve the Traffic Safety Commission minutes for January 9, 2012, as amended. Motion carried (8 Yes/0 No/1 Absent [Eoff]).</p> <p>TSC-12-003 Everest Road (Texaco) MOTION #2: Cotter/Oravetz to approve TSC-12-003 requesting access review on Everest Road intersection with 99W at the Texaco gas station with the staff recommendation to install the Option C of figure 3B-18, a white box with hatch lines painted on the pavement, from the intersection to the driveway at Texaco; allowing at least one vehicle to be behind the crosswalk or stop sign whichever is more restrictive for vehicles turning right onto 99W; and only after ODOT is contacted for approval. Motion carried (8 Yes/0 No/1 Absent [Eoff]).</p> <p>TSC-12-004 Howard Street (Library) MOTION #3: Birky/Brandt to take no action on TSC-12-004 regarding the Howard Street one-way traffic situation at the Newberg Public Library, leaving the area as it is with current signage. Motion carried (8 Yes/0 No/1 Absent [Eoff]).</p>
3/12/2012	<p>MOTION #1: Brandt/Oravetz to approve the Traffic Safety Commission minutes for February 13, 2012, as presented. Motion carried (9 Yes/0 No).</p>
4/9/2012	<p>MOTION #1: Oravetz/Birky to approve the Consent Calendar including the Traffic Safety Commission minutes for March 12, 2012, as presented. Motion carried (7 Yes/0 No/2 Absent [Brandt, Woodruff]).</p>

	<p>TSC-12-010 Signage Request from CPRD for Chehalem Heritage Trail MOTION #2: Birky/Eoff to approve the Traffic Safety Commissions support the concepts presented and continued planning related to the Chehalem Heritage Trail. Motion carried (7 Yes/0 No/2 Absent [Brandt, Woodruff]).</p> <p>TSC-12-007 Meridian-3rd Stop Sign Request MOTION #3: Oravetz/Cotter to approve the staff recommendations for TSC-12-007 and TSC-12-008 to leave the intersections at Meridian Street and 3rd Street and Meridian Street and 5th Street as they are and to take no action. Motion carried (7 Yes/0 No/2 Absent [Brandt, Woodruff]).</p> <p>Texaco MOTION #4: Oravetz/Cotter to hold action on the installation at the Texaco gas station on 99W until confirmation is received from the business owner. Motion carried (7 Yes/0 No/2 Absent [Brandt, Woodruff]).</p> <p>MOTION #5: Oravetz/ to install the painting and signage if it is confirmed the business will stay open and to not install and leave it to staff if the business closes. Motion failed for lack of a second.</p>
5/14/2012	Meeting Cancelled to lack of agenda.
6/11/2012	<p>MOTION #1: Brandt/Cotter to approve the Consent Calendar including the Traffic Safety Commission minutes for April 9, 2012, as presented. Motion carried (9 Yes/ 0 No).</p> <p>TSC-12-013 Temporary Street Closures for Farmers Market TSC-12-015 Temporary Street Closures for Tunes on Tuesday MOTION #2: Oravetz/Brandt to approve TSC-12-013 Temporary Street Closures for Farmers Market and TSC-12-015 Temporary Street Closure for Tunes on Tuesday. Motion carried (9 Yes/0 N).</p>
7/9/2012	<p>MOTION #1: Woodruff/Lawson to approve the Consent Calendar including the Traffic Safety Commission minutes for June 11, 2012, as presented. Motion carried (7 Yes/0 No/2 Absent [Eoff, Oravetz]).</p> <p>TSC-12-016: Speed Hump Little Oak Street MOTION #2: Eoff/Lawson to approve TSC-12-016 to install a speed hump on Little Oak Street running east to west just south of the entrance to the Fred Meyer parking lot. Motion carried (8 Yes/1 No [Johns]/1 absent [Oravetz]).</p> <p>MOTION #3: Eoff/Brandt to have an official recommendation made to the developer for a speed hump on Oak Grove Street running north to south just northwest of the proposed entrance to the new apartment complex. Motion carried (8 Yes/1 No [Johns]/1 absent [Oravetz]).</p>
8/13/2012	<p>MOTION #1: Cotter/Woodruff to approve the Consent Calendar including the Traffic Safety Commission minutes for July 9, 2012, as amended. Motion carried (9 Yes/0 No).</p> <p>TSC-12-016 – Reconsideration of Limited Decision TSC-12-016: Speed Hump (raised crosswalk) at Little Oak Street. MOTION #2: Woodruff/Brandt to reconsider Motion #3 from the July 9, 2012, Traffic Safety Commission meeting to have an official recommendation made to the developer for a speed hump on Oak Grove Street running north to south just northwest of the proposed entrance to the new apartment complex. Motion carried (8 Yes/0 No/1 Abstain [Birky]).</p> <p>MOTION #3: Woodruff/Brandt to rescind the decision of Motion #3 from the July 9, 2012, Traffic Safety Commission meeting to have an official recommendation made to the developer for a speed hump on Oak Grove Street running north to south just northwest of the proposed entrance to the new apartment complex. Motion carried (7 Yes/1 No [Cotter]/1 Abstain [Birky]).</p> <p>MOTION #4: Woodruff/Lawson to reconsider Motion #2 from the July 9, 2012, Traffic Safety Commission meeting to approve TSC-12-016 installing a speed hump on Little Oak Street running east to west just south of the entrance to the Fred Meyer parking lot. Motion carried (7 Yes/0 No/1 Abstain</p>

	<p>[Birky].</p> <p>MOTION #5: Woodruff/Brandt to rescind Motion #2 from the July 9, 2012, Traffic Safety Commission meeting to approve TSC-12-016 installing a speed hump on Little Oak Street running east to west just south of the entrance to the Fred Meyer parking lot. Motion carried (7 Yes/0 No/1 Abstain [Birky].</p> <p>MOTION #6: Lawson/Woodruff to notify the Planning Commission the Traffic Safety Commission does not recommend installing a speed bump or hump at the Little Oak Street location as a condition of approval for the Oak Grove Apartment project development at this time. Motion carried (8 Yes/0 No/1 Abstain [Birky].</p>
9/10/2012	Meeting Cancelled due to lack of agenda.
10/8/2012	
11/12/2012	
12/10/2012	